

The opinion in support of the decision being entered today was not written for publication  
and is not binding precedent of the Board.

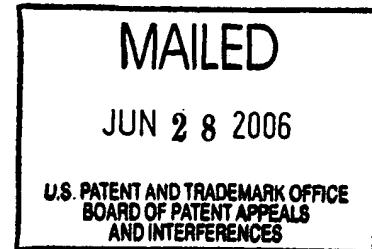
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte MASAYOSHI KOBAYASHI

Appeal No. 2006-1497  
Application No. 09/770,017

ON BRIEF



Before HAIRSTON, BLANKENSHIP, and MACDONALD, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 7, 10, 14, 22, 24 through 27 and 29.

Claims 8, 11, 15 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent claim form including all of the limitations of the base claim and any intervening claims.

The disclosed invention relates to a method and apparatus for determining whether predetermined conditions have been met for replacing a sub-tree structure of a tree structure with an equivalent table.

Appeal No. 2006-1497  
Application No. 09/770,017

Claim 24 is illustrative of the claimed invention, and it reads as follows:

24. A computerized method for controlling storage and retrieval of data in a memory device by constructing a data structure in which items of data are stored for search, comprising:

- a) forming an assumed tree structure in which all the items of data are stored;
- b) sequentially selecting a node from the assumed tree structure to select a sub-tree structure including the selected node and any child nodes of the selected node;
- c) forming an equivalent table storing at least a portion of the items of data included in the selected sub-tree structure in a table form;
- d) determining whether the selected sub-tree structure satisfies one or more predetermined conditions; and
- e) when the selected sub-tree structure satisfies the one or more predetermined conditions, replacing the selected sub-tree structure with the equivalent table to construct the data structure,

wherein the predetermined conditions are that: 1) an amount of memory required to store a data structure including the equivalent table in place of the selected sub-tree structure is smaller than that required to store the assumed tree structure; and 2) search performance of the data structure is not lower than that of the assumed tree structure.

The references relied on by the examiner are:

Powers et al. (Powers)	5,404,513	Apr. 4, 1995
Jeffries	6,633,879	Oct. 14, 2003
		(filed Jan. 4, 2000)

Claims 7, 10, 14, 22, 24 through 27 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Powers in view of Jeffries.

Reference is made to the briefs and the answer for the respective positions of the appellant and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 7, 10, 14, 22, 24 through 27 and 29.

Powers describes a database system in which the whole tree is represented by using tables (column 2, lines 33 through 37; column 6, lines 17 and 18). Powers is concerned with reducing the amount of storage space (Abstract), and one way to accomplish such a task is to get rid of duplicative nodes (column 6, lines 3 through 16). The examiner's contentions (answer, pages 4 and 5) to the contrary notwithstanding, Powers never selects a sub-tree structure for processing in the manner set forth in the claims on appeal.

Jeffries describes a method and apparatus for selecting a direct table and a plurality of corresponding trees in a computer system (Figures 3, 4A and 5A; Abstract; column 4, lines 25 through 35; column 6, lines 10 through 14; column 10, lines 15 through 17). Jeffries, like Powers, never selects a sub-tree structure for processing in the manner set forth in the claims on appeal.

Accordingly, we agree with the appellant's arguments (brief, pages 8 through 11; reply brief, page 4) that Powers and Jeffries neither teach nor would have suggested to one of ordinary skill in the art selecting a sub-tree structure, and then determining whether predetermined conditions have been met for replacing the sub-tree structure of a tree structure with an equivalent table. In summary, the obviousness rejection of claims 7, 10, 14, 22, 24 through 27 and 29 is reversed.

Appeal No. 2006-1497  
Application No. 09/770,017

## DECISION

The decision of the examiner rejecting claims 7, 10, 14, 22, 24 through 27 and 29 under 35 U.S.C. § 103(a) is reversed.

**REVERSED**

KWH/kis

Appeal No. 2006-1497  
Application No. 09/770,017

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